Daily Diary Report by Bid Item

Contract No.: **04-0120F4**

Diary #: **509** **Const Calendar Day:** 897 **Date:** **22-Feb-2012** **Wednesday**
Inspector Name: **Bruce, Matt** **Title:** **Transportation Engineer**
Inspection Type: Intermittent
Shift Hours: 05:00 am 03:30 pm **Break:** 00:30 **Over Time:** 02:00
Federal ID:
Location:
Reviewer: **Schmitt, Alex** **Approved Date:** **Status:** Submit

04-0120F4
04-SF-80-13.2/13.9
Self-Anchored
Suspension Bridge

Weather

Temperature **7 AM** 40 - 50 **12 PM** 50 - 60 **4PM** 60 - 70
Precipitation 0.00" **Condition** Partly Cloudy

Working Day ☐ If no, explain:

Diary: Dispute ☐

Work description.

- John Lyons, Phil Latasa, Sami Dauok, Alex Schmitt and myself checked the out to out distance for the cable strands today as Sami's and my measurements are tabulated below. Sami and I were responsible for both the north/south mainspans and south west-loop today. Similarly John and Phil were responsible for checking the north/south sidespans and the north west-loop. Sami assisted me with the measurements and tabulating the data as I took all of the measurements unless otherwise noted. I used the Maletic gauge (#1) to take the out to out measurements of the cable strands.

All measurements by both crews were reported to Alex who was stationed in the Caltrans Connex recording and analyzing the data. When all of the measurements were completed, Alex was responsible for reviewing the measurements with ABF engineer Zach Lauria. See Alex's diary for more details related to the acceptance or rejection of cable strand sag adjustment.

Ambient temperatures were taken with the red temperature gauge. Wind speeds were obtained from weather.com at the time of the measurements. The steel temperature measurements were taken with the digital thermometer placed on the outer cable strand wires.

The official sunrise time per weather.com for San Francisco today was at 6:51am. The following measurements were taken of the relative sag from cable strand number 1 at the given times below:

// North Mainspan //
Time = 5:09am
Ambient Temperature = 54.1F
Condition = Partly Cloudy
Wind = N @ 4mph
ABF Surveyor(s) = Terry Denis and Mike Bonidici
Caltrans Engineer(s) = Matt Bruce and Sami Dauok

Cable Strand	Steel Temperature (F)	O-O (#1) CT (mm)	Theor (mm)	CT Delta (mm)
1	54.4	Baseline or Zero	75	0
42	54.4	403, 404 - Ave = 404	404	0
43	54.2	463, 462 - Ave = 463	461	+ 2
44	54.4	593, 593 - Ave = 593 (-61) = 532	518	+ 14
45	53.9	587, 584 - Ave = 586	575	+ 11
46	54.2	188, 188 - Ave = 188	186	+ 2
47	53.3	385	243	+ 142
48	53.4	442	299	+ 143

49	54.0	524	356	+ 168
50	53.6	552	413	+ 139
51	53.5	559	470	+ 89

Comments: All cable strands were considered to be free-hanging at the time of measurement on the north mainspan. I took all of the measurements while Sami assisted me with setting up the targets, being level, normal to cable, etc. I gave my numbers for this span to ABF surveyor Terry Denis. They had not measured these cable strands at this location yet. I told Terry to call me if any of the measurements are off for us or them to remeasure keeping in mind the 7:00am deadline. The Maletic gauge #1 had to be inverted on cable strand numbers 44 and 45 with the target placed on cable strand number 1. Also a block had to be placed on cable strand number 44 to get the measurement.

// South Mainspan //
Time = 5:48am
Ambient Temperature = 53.5F
Condition = Partly Cloudy
Wind = NE @ 3mph
ABF Surveyor(s) = None at this time
Caltrans Engineer(s) = Matt Bruce and Sami Dauok

Cable Strand	Steel Temperature (F)	O-O (#1) CT (mm)	Theor (mm)	CT Delta (mm)
1	53.0	Baseline or Zero	76	0
44	53.9	527, 527 - Ave = 527	525	+ 2
45	52.8	584, 585 - Ave = 585	583	+ 2
46	53.6	179, 179 - Ave = 179	180	- 1
47	53.7	305	239	+ 66
48	53.3	421, 419 - Ave = 420	298	+ 122
49	53.7	380	356	+ 24
50	52.5	418, 421- Ave = 420	415	+ 5

Comments: All cable strands were considered to be free-hanging at the time of measurement on the south mainspan. I took all of the measurements while Sami assisted me with setting up the targets, being level, normal to cable, etc.

- Sami and myself completed measurements at both the north and south mainspans at 6:15am. All numbers were reported to Alex Schmitt and he had us recheck cable strand numbers 44 and 45 on the north mainspan.

// North Mainspan //
Time = 6:26am
Ambient Temperature = N/A
Condition = Partly Cloudy
Wind = N/A
ABF Surveyor(s) = None at this time
Caltrans Engineer(s) = Matt Bruce and Sami Dauok

Cable Strand	O-O (#1) CT (mm)	Theor (mm)	CT Delta (mm)
1	Baseline or Zero	75	0
44	595 (-61) = 534	518	+ 16
45	583	575	+ 8

Comments: All cable strands were considered to be free-hanging at the time of measurement on the north mainspan. I took all of the measurements while Sami assisted me with setting up the targets, being level, normal to cable, etc. As before a block had to be placed on cable strand number 44 to get the measurement.

- Once we were content with the measurements on the north mainspan, we then proceeded to go take measurements at the west-loop.

// South West-Loop //
Time = 6:50am
Ambient Temperature = 54.8F
Condition = Partly Cloudy
Wind = NNE @ 2mph
ABF Engineer(s) or Surveyor(s) = None at this time
Caltrans Engineer(s) = Matt Bruce and Sami Dauok

Cable Strand	Steel Temperature (F)	O-O (#1Y) CT (mm)	Theor (mm)	CT Delta (mm)
1	54.0	Baseline or Zero	80	0
49	53.5	418 (-121) = 297	316	- 19
50	53.4	542 (-121) = 421	410	+ 11
51	53.8	625 (-121) = 504	505	- 1

Comments: All cable strands were considered to be free-hanging at the time of measurement on the south west-loop except for cable strand number 52. Sami took the majority of the shots with me assisting/checking him setting up the targets, being level, normal to cable, etc. I recorded the data while the measurements were being taken. The ( ) denotes the fixed timber block (by ABF) to cable strand number 1 dimension in millimeters.

// North West-Loop //
Time = 6:55am
Ambient Temperature = 54.8F
Condition = Partly Cloudy
Wind = NNE @ 2mph
ABF Engineer(s) or Surveyor(s) = None at this time
Caltrans Engineer(s) = Matt Bruce, John Lyons, Phil Latasa, and Sami Dauok

Cable Strand	Steel Temperature (F)	O-O (#1Y) CT (mm)	Theor (mm)	CT Delta (mm)
1	53.3	Baseline or Zero	80	0
49	54.7	428 (-127) = 301	316	- 15
50	53.6	551 (-127) = 424	410	+ 14
51	53.3	634 (-127) = 507	505	+ 2

Comments: All cable strands were considered to be free-hanging at the time of measurement on the north west-loop except for cable strand number 52. Sami and John took the measurements at this location. I recorded the data while the measurements were being taken.The ( ) denotes the fixed timber block (by ABF) to cable strand number 1 dimension in millimeters.

- All of the mainspan measurements that I took today were conveyed to Alex by 6:30am. The numbers for the west-loop were reported to Alex just prior to 7:00am. As Alex and Zach were reviewing the numbers it was determined that myself and Sami go remeasure/check cable strand number 48 on the south sidespan while John and Phil check the same strand on the north sidespan.

// South Sidespan //
Time = 7:18am
Ambient Temperature = 56.0F
Condition = Partly Cloudy
Wind = N/A
ABF Surveyor(s) = James Allen and Ken (last name not known at this time)
Caltrans Engineer(s) = Matt Bruce and Sami Dauok

Cable Strand	Steel Temperature (F)	O-O (#1Y) CT (mm)	Theor (mm)	CT Delta (mm)
1	55.6	Baseline or Zero	78	0
48	55.3	337 (-61) = 276	284	- 8

Comments: Cable strand number 48 was considered to be free-hanging at the time of measurement on the south sidespan. I took the measurement while Sami assisted me with setting up the target, being level, normal to cable, etc. Myself and ABF surveyor James Allen compared numbers and he measured a 280mm for this cable strand just prior to me measuring it. A block had to be placed on cable strand number 1 to get the measurement.

- As there still was some disagreement between Caltrans and ABF regarding the measurement for cable strand number 48 on the north sidespan Alex summoned me to remeasure/check at 7:30am.

// North Sidespan //
Time = 7:36am
Ambient Temperature = 55.7F
Condition = Partly Cloudy
Wind = NNE @ 5mph
ABF Engineer(s) or Surveyor(s) = Terry Denis, Mike Bonidici, and Zach Lauria
Caltrans Engineer(s) = Alex Schmitt, Phil Latasa, John Lyons, and Matt Bruce

Cable Strand	Steel Temperature (F)	O-O (#1Y) CT (mm)	Theor (mm)	CT Delta (mm)
1	56.7	Baseline or Zero	78	0
48	54.6	331, 333 - Ave = 332 (-61) = 271	289	- 18
48*	54.6	282 (-7) = 275	289	- 14

Comments: Cable strand number 48 was considered to be free-hanging at the time of measurement on the north sidespan. I took the measurement while Phil assisted me with setting up the target, being level, normal to cable, etc. A block had to be placed on cable strand number 1 to get the measurement for the first measurement displayed. The second measurement (denoted *) was done off of cable strand number 21. The offset from cable strand 21 to number 1 is -7mm which was measured by John using the flat plate of the Maletic gauge #1. See John Lyons email dated 02/22/2012 sent at 10:53am regarding more details and the summary of the issues for this particular cable strand measurement.

- Used the Topcon GRS-1 GPS equipment and automatic level to determine the geometry of the W-Line YBITS bridge after placing the counterweight beams at the end of the cantilever. Shot the first three rows of points from the end of the cantilever which include the brass caps (2 today) placed by ABF surveyors. Thanh Le assisted me (rodman) with measuring the elevations using the automatic level. Surveying with the GPS equipment began at 1:40pm and was completed at 2:40pm. The level run began at 2:40pm and was completed at 3:10pm. The ambient temperature was 72F and the wind speed was recorded at WNW @ 16mph. It should be noted that the MCM carpenters estimated time of completion for placing the steel counterweight beams was sometime before lunch but not before 10:00am.

- Began to compile all my measurements taken today on the daily cable strand sag adjustment sheets.

- Prepared for todays survey and began to reduce the numbers.

- Attended the weekly Team Cable Safety Tailgate and staff meeting at 12:00pm in the Caltrans Connex box located on the E-Line of the OBG near the south catwalk anchorage.

- Discussed pertinent issues related to the Hinge K Tie-Down with Jason Wilcox as he is the lead worker on this portion of the SAS/YBITS structure.

Attachment

Daily Diary Report by Bid Item

Job Name: 04-0120F4 **Inspector Name** Bruce, Matt **Diary #:** 509 **Date:** 22-Feb-2012 Wednesday

View of the steel beam counterweights placed by MCM carpenters where the task was completed before lunch.

View from the south sidespan catwalk of MCM carpenters placing the steel counterweight beams for the Hinge K tie-down.

The Topcon GRS-1 GPS equipment in the process of taking measurements for deflection on the YBITS W-Line bridge.

The E-Line Hinge K pipe beams fixed to the W2 cap beam seen from the YBITS W-Line bridge.